

REMARKS

Favorable reconsideration of the above-identified application is requested in view of the following remarks.

Claims 1-28 are pending in this application, with Claims 1, 7, 13, 20 and 26-28 being independent.

Examiner Thompson is thanked for withdrawing the previous rejections. However, new rejections are set forth in their place. Those rejections are responded to below.

Claims 1-3, 5-9, 11-15, 17-22, and 24-28 are rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 5,987,127, hereinafter *Ikenoue*, in view of U.S. Patent No. 6,243,480, hereinafter *Zhao*.

Ikenoue's technology involves preventing or rendering difficult the copying of secret hard paper documents by unauthorized persons. To do so, *Ikenoue* embeds information relating to a hard (i.e., paper) copy of a document into the hard paper document so that anyone copying the hard paper document cannot detect the hidden information. The additional data is embedded in the hard paper copy of a document as pixels arranged in a format so that binary data can be derived from the pixel pattern. The binary data indicates information relating to the document, e.g., document name, page number, copy code, password, rank of secret, page number, file name, user name, date, apparatus recognition code, and generation code (see Table 1 in *Ikenoue*). That is, upon scanning of the hard paper document, the pixel pattern is detected and indicates information. *Ikenoue* also discloses that some information is updatable, e.g., the generation code, number, and copy code. Such

copying is prevented or rendered difficult through the use of, e.g., passwords, user ID, and rank of secret.

Along those lines, it is necessary to ensure that the additional data has low visibility in a document, and that the position of the additional data is difficult to discern, thereby preventing or making it difficult for a user to destroy, modify or fraudulently reproduce the additional data. Accordingly, *Ikenoue* discloses a process including use of data blocks to “chop up” the additional data into smaller less discernable pieces, and arbitrary positioning of the data blocks to make locating and modifying or destroying of the additional data difficult. For example, if the additional data was always in the same spot on a document, finding and destroying or modifying such would be a relatively simple exercise.

Some of the subject matter in the present application is related to embedding of predetermined information included in a piece of additional information, and embedding of updated predetermined information into image data at a location where the predetermined information is originally embedded. Claims 1, 7, 13, 20 and 26-28 define combinations of features generally related to that subject matter.

The Official Action recognizes that *Ikenoue* does not disclose an embedding unit that embeds information at a location where predetermined information is originally embedded, and does not disclose subject matter along the lines defined in Claims 1, 7, 13, 20 and 26-28. However, *Zhao* is relied upon for a disclosure of that subject matter and it is proposed that it would have been obvious to modify *Ikenoue* to have an “active watermark” as provided in *Zhao* that is updatable, and that such a modification of *Ikenoue* would be obvious and would read on the claims.

However, *Zhao* discloses digital authentication with analog documents. That is, *Zhao* discloses techniques for protecting the security of digital representations, and of analog forms made from them. As recited in the Background of the Invention Section in *Zhao*, (emphasis added) “[t]he invention relates generally to digital representations of images and other information and more specifically to techniques for protecting the security of digital representations and of analog forms produced from them.” The Abstract describes an active watermark that includes a program code. Further, when the active watermark is read, it may cause the program code to be executed. Basically, the active watermark, that the Official Action suggests could replace the embedded information in *Ikenoue*, is computer code embedded in an electronic version of a document and is not capable of being presented in a hard paper copy.

It would not have been obvious to modify *Ikenoue* to have *Zhao*’s active watermark as suggested in the Official Action at least because *Zhao*’s active watermark is computer code embedded in digital image data not the actual image, whereas the embedded information in *Ikenoue* is produced in the image on a hard paper copy. It would not have been obvious to modify embedded information on a hard copy of a document in view of an active watermark that is computer code in digital image data. Further, making such a modification would prevent the intended use of *Ikenoue*, i.e., embedding information in hard paper copy of a document, because the active watermark is not functional in a hard paper copy of a document.

Therefore, the idea of combining *Ikenoue* and *Zhao* as suggested in the Official Action would not have been obvious, and in fact, would have been quite impossible.

For at least those reasons, Claims 1, 7, 13, 20 and 26-28 are allowable.

Claims 2, 3, 5, 6, 8, 9, 11, 12, 14, 15, 17-19, 21, 22, 24 and 25 are allowable at least by virtue of their dependence from allowable independent claims.

Claims 4, 10, 16 and 23 are rejected as being unpatentable over *Ikenoue* in view of *Zhao* and further in view of U.S. Patent No. 5,987,127, hereinafter *Davis*. *Davis* does not overcome the deficiencies of the rejections of the independent claims from which Claims 4, 10, 16 and 23 depend. For at least that reason, they are allowable too.


Based on the above-observations, it is respectfully requested that all the rejections set forth be reconsidered and withdrawn.

In the event that there are any questions concerning this amendment, or the application in general, the Examiner respectfully urged to contact the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

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